



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,689	06/13/2001	Robert D. Fields	10276 (3080-0060	4306

7590 06/12/2002

Luke A. Kilyk
KILYK & BOWERSOX, P.L.L.C.
53A Lee Street
Warrenton, VA 20186

EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 06/12/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-9

Office Action Summary

Application No.

091880,689

Applicant(s)

FIELDS et al

Examiner

J.DOTE

Group Art Unit

1756

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 10/25/01 ; 4/3/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1 - 43 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 40, 41 is/are allowed.
- ☒ Claim(s) 1-14, 16-23, 25-31, 35, 36, 42, 43 is/are rejected.
- ☒ Claim(s) 15, 24, 32-34, 37-39 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6 ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

Office Action Summary

1. The examiner acknowledges the amendments to claims 1 and 26, and the addition of claims 40-43 filed in Paper No 8 on Apr. 3, 2002. Claims 1-43 are pending.

2. The objection to claim 26 set forth in the Office action mailed Dec. 3, 2001, Paper No. 5, paragraph 3, has been withdrawn in response to the amendment to claim 26.

The rejection of claims 1, 2, and 5-7 under 35 U.S.C. 102(b) over US 5,840,457 (Urawa), set forth in Paper No. 5, paragraph 9, has been withdrawn in response to the amendment to claim 1, adding the limitation that the inorganic particles are present in the toner resin in an amount of from about 0.1 wt% to about 0.5 wt% based on the weight of the toner. Urawa discloses a magnetic toner comprising magnetic particles in an amount greater than the amount recited in instant claim 1. Urawa, example 1 at cols. 27-28.

The rejections of claims over US 5,364,720 (Nakazawa), alone or combined with the other cited references, set forth in Paper No. 5, paragraphs 10-13, have been withdrawn in response to the amendment to claim 1 described supra. Nakazawa, alone or combined with the other references, does not teach or suggest a toner as recited in instant claim 1.

3. The disclosure is objected to because of the following informalities:

The use of the trademarks, e.g., Viscol 550P [sic: VISCOL 550P] at page 12, line 23, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Applicants' arguments filed in Paper No. 8 have been fully considered but they are not persuasive. Applicants assert that the examiner only noted correction to one trademark at page 13, line 21. Applicants argue that the amendment to page 13 filed in Paper No. 8 overcomes the objection.

Applicants' arguments are not persuasive. The examiner clearly stated in Paper No. 5, paragraph 1, that the example at page 13, line 21, was not "exhaustive" and that applicants should review the entire specification for compliance. As discussed in the objection above, applicants' amendment in Paper No. 8 did not capitalize all the trademarks disclosed in the specification.

Contrary to applicants' remarks that there is no formal requirement that the trademarks be capitalize, the capitalization of trademarks is required by the USPTO. See MPEP 608.01(v), page 600-84. Accordingly, the objection stands.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claims 16-29 and 35-39, the recitation "magnetic carrier particles" lacks antecedent basis in the specification. See page 5, line 21, and page 14, line 3, of the specification, which disclose "hard magnetic carrier particles." The recitation "magnetic carrier particles" includes "soft" magnetic carrier particles, which are not disclosed in the specification.

Applicants' arguments filed in Paper No. 8 have been fully considered but they are not persuasive. Applicants argue that the specification provides antecedent basis at page 5, lines 20-21. The specification at page 5 discloses "oppositely charged carrier particles."

Applicants' arguments are not persuasive. The generic term "oppositely charged carrier particles" is not limited to magnetic carrier particles, but includes non-magnetic carrier particles, such as glass carrier particles. As discussed in the objection

above, the specification only discloses hard magnetic particles, which is but one species of the broad genus, "magnetic carrier particles." There is no disclosure of the broad genus "magnetic carrier particles" in the instant specification. Accordingly, the objection stands.

Applicants are reminded that to overcome the objection, applicants merely have to incorporate the objected claim language in an appropriate location in the specification.

5. Applicants are advised that should claim 21 be found allowable, claim 43 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

6. The term "2'/10' MECCA charge ratio" is defined as the ratio of the level of charge obtained in 2 minutes of charging the toner to the level of charge obtained after 10 minutes of charging, where the charge is determined in a MECCA device. See the instant specification, page 19, lines 15-21, and page 22, lines 1-15.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

8. Claim 30 and 35 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,074,795 (Watanabe).

Watanabe discloses a developer comprising carrier particles and a toner. The toner comprises toner particles mixed with hydrophobized silica particles HDK2000. The toner particles comprise a binder resin, a charge control agent, and a releasing composition D. Releasing composition D comprises polyethylene wax as the releasing agent and silica particles HDK2000. See example 4 at cols. 9-10. The carrier particles can comprise iron powder, ferrite powder, magnetite, and nickel powders. Col. 6, lines 25-27.

Watanabe does not disclose that his toner has a charge rate such that the "2'/10' MECCA charge ratio is from about 0.9 to about 1.1" as recited in instant claim 30. However, Watanabe's toner in example 4 exhibits an initial charge of -17.8 $\mu\text{C/g}$ and after 100,000 copies, a charge of -17.3 $\mu\text{C/g}$. Col. 7, lines 26-28 and 36-38, and Table 1, example 4, at col. 16. The ratio of the initial charge to the charge after 100,000 copies is 1.0 (to two significant figures), which meets the numerical range recited in instant claim 30. Because Watanabe's toner maintains a substantially constant charge rate as seen by the ratio of 1.0, it is reasonable to presume that Watanabe's toner has a charge ratio of 1.0 of the charge after 2 minutes of charging to the charge after 10 minutes of charging, which is within the charge limitation recited in instant claim 30. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Applicants' arguments filed in Paper No. 8 have been fully considered but they are not persuasive.

Applicants' arguments with respect to the composition recited in instant claim 1 are irrelevant to the subject matter recited in instant claims 30 and 35. Claim 30 does not require any compositional limitation, but merely requires that the toner particles have a particular charge rate.

Applicants argue that the determination of Watanabe's initial charge and charge after 100,000 copies are an unfair comparison to the MECCA test recited in instant claim 30 because they are not the same. Applicants argue that Watanabe does not disclose that the initial charge was determined after "two" minutes of charging, and the charge after 100,000 copies were not determined after "ten" minutes of charging, as recited in the instant claim.

Applicants' arguments are not persuasive. The rejection does not equate the conditions of determining Watanabe's initial charge and charge after 100,000 copies to the MECCA test. Rather, the discussion that Watanabe's toner exhibits a ratio of 1.0 of the initial charge to the charge after 100,000 copies is to show that Watanabe's toner maintains a substantially constant charge rate, starting from $t=0$ and lasting for a long time period, which as applicants have noted in Paper No. 8, page 9, is more than ten minutes. Because of this showing, a person having ordinary skill in the art would reasonably presumed that Watanabe's toner would also exhibit a charge ratio of 1.0 of the initial charge to the charge after two minutes of making copies and a charge ratio of 1.0 of the initial charge to the charge after ten minutes of making copies. Put another way, a person having ordinary skill in the art would not have expected the charge at two minutes to differ substantially from the virtually

identical values at zero minutes and at greater than ten minutes. Thus, it is reasonable to presume that Watanabe's toner would have a charge ratio of 1.0 of the charge after two minutes to charge after 10 minutes of charging regardless of how the charges are determined. Instant claim 30 does not recite the absolute charge levels determined by the MECCA test at two minutes and ten minutes of charging, but merely requires that the ratio of the charge at two minutes to the charge at ten minutes determined by MECCA be within the range of about 0.9 to about 1.1. Watanabe's method shows that his toner maintains a substantially constant charge level. Thus, as set forth in the rejection, it is reasonable to presume that Watanabe's toner has a charge ratio of 1.0 within the charge limitation recited in instant claim 30. Applicants have not met their burden to show otherwise. Accordingly, the rejection stands.

9. Claim 42 is rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe.

Watanabe discloses a developer comprising carrier particles and a toner. The toner comprises toner particles mixed with hydrophobized silica particles HDK2000. The toner particles comprise a binder resin, a charge control agent, and a releasing composition D. Releasing composition D comprises polyethylene wax as the releasing agent and silica particles HDK2000. See

example 4 at cols. 9-10. The carrier particles can comprise iron powder, ferrite powder, magnetite, and nickel powders. Col. 6, lines 25-27.

Applicants' arguments filed in Paper No. 8 have been fully considered but they are not persuasive.

Applicants argue that Watanabe's silica particles are dispersed in a wax. Applicants argue that Watanabe's silica particles are not present in the toner resin as specifically recited in the instant claim.

Applicants' arguments are not persuasive. Instant claim 42 merely recites that the "inorganic particles are present in said toner resin." Watanabe's releasing composition D is dispersed in the toner binder resin of Watanabe's toner particles. Thus, Watanabe's silica particles dispersed in releasing composition D are present in the toner binder resin. Accordingly, the rejection stands.

10. Claims 1-4, 7, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe.

Watanabe discloses a developer as described in paragraph 9 above which is incorporated herein by reference.

Watanabe's toner in example 4 comprises 89 wt% of binder resin, 1.8 wt% of charge control agent, 2.7 wt% of the polyethylene wax, 1.6 wt% of the internal silica particles, and

0.5 wt% of the surface silica particles, based on the weight of the toner particles. The amounts are determined from the amounts reported in Watanabe's example 4.

The amount of 1.6 wt% of the internal silica particles is outside the range of "about 0.1 wt% to about 0.5 wt%" recited in instant claim 1.

Watanabe discloses that releasing agents having a melting point from about 60 to about 160°C can be used to prepare toners having good preservability, good resistance to blocking, and good releasability from fixing rollers. See col. 4, lines 58-61. The polyethylene wax releasing agent used in example 4 has a melting point of 110°C. Watanabe further discloses that said releasing agent can be preferably used in an amount of 0.5 to 20 wt%. Watanabe discloses that toners comprising the releasing agent in combination with silica particles capable of absorbing said releasing agent have good transferability and durability, and produce good quality toner images without offset. Col. 2, lines 23-29.

If the amount of the polyethylene wax in Watanabe's toner in example 4 were adjusted to 0.5 wt% based on the weight of the toner particles, as taught by Watanabe, the amount of the polyethylene wax would be about 0.56 part by weight and the amount of silica particles would be about 0.34 part by weight per 111.8 parts by weight of toner particles. The silica particles

are present in an amount of about 0.3 wt% based on the weight of the toner particles, which meets the amounts recited in instant claim 1. (The amount of 0.34 part by weight is determined from the composition of releasing composition D in Watanabe's example 4).

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Watanabe, to adjust through routine experimentation the amount of the polyethylene releasing agent to 0.5 wt% based on the weight of the toner particles in the toner disclosed by Watanabe, resulting in the amount of about 0.3 wt% of silica particles in the toner particles, because that person would have had a reasonable expectation of successfully obtaining a developer having good transferability and durability, and producing good quality toner images without offset as taught by Watanabe.

11. Claims 5, 10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe as applied to claim 1 above, further combined with US 5,230,978 (Kawasaki).

Watanabe renders obvious a developer as described in paragraph 10 above, which is incorporated herein by reference.

Watanabe's toner in example 4 does not comprise a cross-linked styrene-acrylate copolymer as the binder resin as recited in instant claim 5. However, Watanabe discloses that the binder

resin can include known resins that are used for conventional toners, such as copolymers of styrene and acrylates. Col. 5, lines 3-17.

Kawasaki discloses a toner binder resin comprising a cross-linked styrene-acrylate copolymer, which is within the scope of the binder resin limitation recited in instant claim 5. Col. 2, lines 13-24, and production examples 2-7. Kawasaki discloses that toners comprising said copolymer have low-temperature fixing properties, and have excellent strength to be used in high-speed copying machines. Col. 1, lines 57-61. The toners have a wide non-offset temperature range and provide stable and good-quality images without fog. Col. 1, line 63, to col. 2, line 3, and Table 1 at col. 6, examples 2-7.

Claim 10 is written in product-by-process format. Kawasaki does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited coalescence" process as recited in instant claim 10. However, as discussed above, Kawasaki's copolymer meets the compositional limitations recited in instant claim 5. Accordingly, Kawasaki's copolymer appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in instant claim 10. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Kawasaki, to use Kawasaki's cross-linked styrene-acrylate copolymer as the binder resin in the toner rendered obvious over the teachings of Watanabe, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used in a high-speed copier, and providing high-quality images without fog when fixed at low temperatures.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe as applied to claim 1 above, further combined with US 5,990,332 (Sukata).

Watanabe renders obvious a developer as described in paragraph 10 above, which is incorporated herein by reference.

Watanabe's toner in example 4 does not comprise an organo iron complex charge agent as recited in instant claim 6. However, Watanabe discloses that the charge control agent can include one or more known charge control agents, such as metal complexes of monoazo dyes, and iron complexes of salicylic acid, dialkylsalicylic acids, naphtholic acid, or dicarboxylic acid. Col. 5, lines 53-54, and col. 6, lines 7-11.

Sukata discloses charge controlling iron complexes of aromatic hydroxycarboxylic acids represented by formula (I) at col. 2, lines 40-59. See Table 1, compounds 35 to 48 (which

include complexes of salicylic acids or of hydroxy naphtholic acids), example 3 at col. 19, and example 16 at col. 25. Sukata discloses that said complexes of aromatic hydroxycarboxylic acid have excellent charge control or charge enhancing properties, environmental resistance to temperature and humidity storage stability, heat stability, and durability. Col. 2, lines 16-27, and example 16. When the complexes are used in toners, they do not affect toner fixability or offset property. Col. 2, lines 28-29. Sukata discloses charge controlling iron complexes of aromatic hydroxycarboxylic acids represented by formula (I).

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Watanabe and Sukata, to use Sukata's iron complex of an aromatic hydroxycarboxylic acid as the charge control agent in the toner rendered obvious over the teachings of Watanabe, because that person would have had a reasonable expectation of successfully obtaining a developer having the benefits disclosed by Sukata.

13. Claims 8, 9, 11-14, 17, 18, 20-23, 25, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe combined with Kawasaki, as applied to claim 1 above, further combined with Sukata.

The combined teachings of Watanabe and Kawasaki render obvious a developer as described in paragraph 11 above, which is

incorporated herein by reference. The amounts of the binder resin, the charge control agent, and the surface silica used in Watanabe's toner in example 4 are within the ranges recited in instant claims 12 and 14. The amount of 0.5 wt% of the polyethylene releasing agent based on the weight of the toner particles, and the amount of about 0.3 wt% of silica particles rendered obvious over the teachings of Watanabe are within the ranges recited in instant claims 12-14.

Watanabe's toner in example 4 does not comprise an organo iron complex charge agent as recited in instant claims 8, 11, 12, and 14. However, Watanabe discloses that the charge control agent can include one or more known charge control agents, such as metal complexes of monoazo dyes, and iron complexes of salicylic acid, dialkylsalicylic acids, naphthoic acid, or dicarboxylic acid. Col. 5, lines 53-54, and col. 6, lines 7-11.

Sukata discloses charge controlling iron complexes of aromatic hydroxycarboxylic acids represented by formula (I). The discussion of Sukata in paragraph 12 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Watanabe and Sukata, to use Sukata's iron complex of an aromatic hydroxycarboxylic acid as the charge control agent in the toner rendered obvious over the combined teachings of Watanabe and

Kawasaki, because that person would have had a reasonable expectation of successfully obtaining a developer having the benefits disclosed by Sukata.

14. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe combined with Kawasaki and Sukata, as applied to claim 21 above, further combined with US 5,500,320 (Saha).

The combined teachings of Watanabe, Kawasaki, and Sukata render obvious a developer as described in paragraph 13 above, which is incorporated herein by reference.

Watanabe does not disclose that the carrier particles can comprise strontium ferrite particles as recited in the instant claims. However, Watanabe discloses that the carrier particles can comprise ferrite powders coated with a resin. Col. 6, lines 25-27.

Saha teaches hard magnetic carrier particles comprising strontium ferrite particles coated with a polymeric coating. Col. 3, lines 58-67, and col. 9, lines 43-46. Saha discloses that said carrier particles provide developer compositions for magnetic brush development having high development speeds without loss of copy image quality. Col. 3, lines 2-15, col. 6, lines 25-39, and col. 10, lines 6-41.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Saha, to use Saha's strontium ferrite resin coated particles as the carrier particles in the developer rendered obvious over the combined teachings of Watanabe, Kawasaki, and Sukata, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used for magnetic brush development having high development speeds without loss of copy image quality.

15. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe combined with Kawasaki, Sukata, and Saha, as applied to claim 27 above, further combined with US 5,102,769 (Creatura).

The combined teachings of Watanabe, Kawasaki, Sukata, and Saha render obvious a developer as described in paragraph 14, which is incorporated herein by reference.

Saha does not teach that its strontium ferrite carrier particles are coated with a blend of polyvinylidene and polymethmethacrylate polymers as recited in instant claims 28 and 29. However, Saha teaches that his carrier particles can be coated with a poly(vinylidene fluoride) resin (e.g., KYNAR) or polymethacrylate resins. Col. 7, lines 7. and 14-15.

Creatura teaches that magnetic carrier particles can be coated with a polymeric coating comprising a blend of poly(vinylidene fluoride) and poly(methylmethacrylate) in a weight of ratio of 3 to 2. Example V at cols. 11-12. The ratio of 3 to 2 meets the ratio of about 80/20 to about 50/50 recited in instant claim 29. Creatura discloses that developers comprising said carrier particles provide images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits. Col. 10, lines 25-29.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Creatura, to coat Saha's strontium ferrite carrier particles with Creatura's polymeric coating and to use those carrier particles in the developer rendered obvious over the combined teachings of Watanabe, Kawasaki, Sukata, and Saha, because that person would have had a reasonable expectation of successfully obtaining a developer capable of providing toner images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits, as taught by Creatura.

16. Applicants' arguments filed in Paper No. 8 with respect to the rejections set forth in paragraphs 10-15 above have been fully considered but they are not persuasive.

Applicants argue that the rejections over Watanabe fail because Watanabe's silica particles are dispersed in a wax, not in a toner binder resin as recited in instant claim 1. However, for the reasons set forth in paragraph 9, Watanabe's silica particles are within the scope of the limitation "inorganic particles are present in the toner binder resin" recited in instant claim 1.

With respect to the rejections over the combined teachings of Watanabe and Kawasaki, applicants further assert that one skilled in the art would not be motivated to use Kawasaki's cross-linked styrene-acrylic copolymer as the binder resin in Watanabe.

Applicants' arguments are not persuasive. Applicants have not provided any objective reasons or objective evidence to support their assertion. As set forth in the rejections, Watanabe and Kawasaki provide ample reason, suggestion, and motivation for a person having ordinary skill in the art to use Kawasaki's cross-linked styrene-acrylate copolymer as the binder resin in Watanabe's toner. Accordingly, the combined teachings of Watanabe and Kawasaki render prima facie obvious the toner recited in the instant claims.

With respect to the rejections over the combined teachings of Watanabe and Sukata, applicants state that they believe that one having ordinary skill in the art would not use Sukata's iron complex in Watanabe.

Applicants' arguments are not persuasive. Applicants have not provided any objective reasons or objective evidence to support their statement. As set forth in the rejections, Watanabe and Sukata provide ample reason, suggestion, and motivation for a person having ordinary skill in the art to use Sukata's organo iron complex charge agent as the charge control agent in Watanabe's toner. Accordingly, the combined teachings of Watanabe and Sukata render prima facie obvious the toner recited in the instant claims.

With respect to the rejections over the combined teachings of Watanabe, Kawasaki, Sukata, and Saha, applicants state that they believe that one having ordinary skill in the art would not combine Saha's strontium ferrite with Watanabe, Kawasaki, and Sukata.

Applicants' arguments are not persuasive. Applicants have not provided any objective reasons or objective evidence to support their statement. As set forth in the rejections, Saha provides ample reason, suggestion, and motivation for a person having ordinary skill in the art to use Saha's strontium ferrite resin coated particles as the carrier particles in the developer

rendered obvious over the combined teachings of Watanabe, Kawasaki, and Sukata. Accordingly, the combined teachings of the cited prior art render prima facie obvious the developer recited in the instant claims.

17. Claims 1-4, 16, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,863,692 (Nakamura).

Nakamura discloses a toner comprising toner particles mixed with hydrophobic silica particles. See toner U example 6 at col. 14. The toner particles comprise a styrene-acrylic resin, a colorant, a wax, a charge control agent, and hydrophobic silica. The hydrophobic silica is present in the toner particles in an amount of 0.15 wt% based on the weight of the toner. (The amount of 0.15 wt% is determined by the data disclosed in example 6.) The amount of 0.15 wt% is within the range of about 0.1 to about 0.5 wt% recited in instant claim 1. Nakamura further discloses that his toner is mixed with a carrier, making a two-component developer. Col. 15, lines 65-67.

18. Claims 10 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura.

Nakamura discloses a two-component developer as described in paragraph 17 above, which is incorporated herein by reference. As set forth in paragraph 17, Nakamura's toner comprises a styrene-acrylic resin.

Claim 10 is written in product-by-process format. Nakamura does not disclose that the styrene-acrylic resin is made by a "limited coalescence" process as recited in instant claim 10. However, as discussed above, Nakamura's resin meets the compositional limitations recited in instant claim 1. Claim 1 only recites "a toner resin." Accordingly, Nakamura's resin appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in instant claim 10. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

19. Claims 31 and 36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura.

Nakamura discloses a two-component developer as described in paragraph 17 above, which is incorporated herein by reference.

Nakamura does not disclose that his toner has a charge rate such that the "2'/10' MECCA charge ratio is from about 0.9 to about 1.1" as recited in instant claim 31. However, Nakamura's toner meets the compositional limitations recited in instant

claim 1, which claim 31 depends from. Thus, it is reasonable to presume that Nakamura's toner has a charge ratio that is within the charge limitation recited in instant claim 31. The burden is on applicants to prove otherwise. Fitzgerald, supra.

20. Claims 5, 10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura combined with Kawasaki.

Nakamura discloses a two-component developer as described in paragraph 17 above, which is incorporated herein by reference.

Nakamura's toner J does not comprise a cross-linked styrene-acrylate copolymer as the binder resin as recited in instant claim 5. However, Nakamura discloses that the binder resin may be any well-known binder resin. Nakamura discloses that useful binder resins include styrene-acrylic copolymer resins. Col. 8, lines 36-40.

Kawasaki discloses a toner binder resin comprising a cross-linked styrene-acrylate copolymer, which is within the scope of the binder resin limitation recited in instant claim 5. The discussion of Kawasaki in paragraph 11 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Kawasaki, to use Kawasaki's cross-linked styrene-acrylate copolymer as the binder

resin in Nakamura's toner J, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used in a high-speed copier, and providing high-quality images without fog when fixed at low temperatures.

21. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura combined with US 5,707,772 (Akimoto).

Nakamura discloses a two-component developer as described in paragraph 17 above, which is incorporated herein by reference.

Nakamura's toner J does not comprise a polyethylene releasing agent as recited in instant claim 7. However, Nakamura discloses that his toner can comprise a wax. Col. 9, line 43. Nakamura's toner J comprises carnauba wax.

Akimoto discloses a low molecular weight polyethylene releasing agent synthesized by using a metallocene catalyst. Akimoto discloses that said polyethylene releasing agent has a sharp molecular weight distribution. Col. 2, lines 61-64, and releasing agent 2 in Table 1. Akimoto discloses that a toner comprising said polyethylene releasing agent has improved storage stability, fixing property, and durability. Col. 2, lines 65-67. The toner also exhibits little off-set and less "winding phenomenon." Col. 2, lines 21-22, and toner 2 in Table 2.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Akimoto, to use Akimoto's polyethylene releasing agent as the wax in Nakamura's toner J, because that person would have had a reasonable expectation of successfully obtaining a developer having the improvements disclosed by Akimoto.

22. Claims 40 and 41 are allowable over the prior art of record.

Claims 15, 24, 32-34, and 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

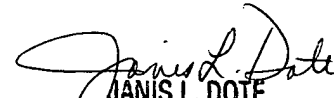
The prior art of record does not teach or suggest toner particles having the amounts of components recited in instant claims 15 and 24. Nor does the prior art teach or suggest toner particles having the particular compositions and the charge ratios recited in instant claims 32-34 and 37-41

23. The reference "Miscellaneous Industrial Products" was deleted from the form PTO-1449 filed in Paper No. 6 on Oct. 25, 2001, because applicants failed to provide a publishing date. See 37 CFR 1.98(b) and MPEP 609, IIIA(1).

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.


JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1530
1750

JLD
June 10, 2002